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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,974	10/30/2001	John R. Graber JR.	LYB 2 0021-3	2485

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EXAMINER

TRIEU, THERESA

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,974

Applicant(s)

GRABER, JOHN R.

Examiner

Theresa Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 31-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-27, 43 and 44 is/are allowed.
- 6) ☒ Claim(s) 31-42, 45-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the RCE filed on April 28, 2005.

Claims 31, 33, 34, 39, 40, 41, 44 and 45 have been amended. Claims 48-52 have been added. Claims 28-30 have been canceled. Claims 1-27 and 31-52 are pending in this office action.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: “first and second rotors having grooves” recited in claim 31 and 52; “common pumping chamber” recited in claim 31, 40; “first male and female portions, second male or female portions” recited in claims 41, 48, 51, 52.

Claim Objections

2. Claims 31, 40, 41, 48, 51 and 52 are objected to, in that their subject matter needs to be incorporated into the specification and the drawings.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. *Claims 31-34, 39-42, 45, 48, 49, 50 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Komori (Publication Number JP 04-370379).*

Regarding claims 31-34, 39-42, 48, 49 and 52 as shown in Fig. 4, Komori discloses a vacuum pump comprising: a pump chamber defining an inlet port (10) and an exhaust port (not numbered; however, clearly seen in Fig. 4); a first and second rotors (2) each including a set of screw threads; a lobe (not numbered; however, clearly seen in Fig. 3) mounted to the first rotor adjacent the inlet port (10) and a channel (not numbered; however, clearly seen in Fig. 3) defined in the second rotor adjacent the inlet port; the lobe and the channel being different from the first and second helical threads (2); the lobe, the channel, and the first and second helical threads being disposed within a common chamber; the lobe and channel matingly engaging during rotation of the rotors; the first and second rotors (2) each including teeth which mesh together and move a fixed volume of gas from the inlet port (10) to the exhaust port the lobe is integral with a first center shaft (4); the lobe comprising an insert secured to a first center shaft section (4); a first/second lobe mounted to the second/first rotor (2) and a first/second channel (not numbered; however, clearly seen in Fig. 3) defined in the first/second rotor (2) with respectively; the suction section (not numbered; however, clearly seen in Fig. 3) reduces the power consumed to move the volume of gas through the pump chamber and increases pump efficiency; a manifold connecting the exhaust port with a high pressure exhaust port. Note that in claims 31 and 45, the limitation "such that when the inlet port closes...to the exhaust port" is a functional recitation. All functional implication has been fully considered. However, they are deemed not to impose any structural limitations distinguishable over the Komori device, which is certainly capable of performing as the lobes matingly engage the channels for trapping fluid at the suction section if

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so desired. In other words, the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The method claim 45 and 52 is inherent in the operation of the Komori device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 35-38, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori '379 in view of legal precedent.

Regarding claims 35-38, 46 and 47, Komori discloses the invention as recited above; however, Komori fails to disclose a shape of the lobe and the channel. It would have been an obvious matter of design choice to have utilized the lobe and the channel being a V-shaped/radius shaped since it has been held that a change in the shape of the element involves only routine skill in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1966).

5. *Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori '379 in view of design choice.*

Regarding claims 50 and 51, Komori discloses the invention as recited above; however, Komori fails to disclose the number of the lobes/male portions being equal to the number of teeth of the rotors.

It is examiner's position that one having ordinary skill in the screw compressor art, would have found it obvious to utilize the number of the lobes/male portions being equal to the number of teeth of the rotors, since they are merely design parameters, depending on the size of the screw compressor or depending on being used for a particular purpose, or solving a stated problem. Moreover, there is nothing in the record which establishes that the claimed number of the lobes/male portions and the number of the teeth rotors under such conditions, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Allowable Subject Matter

6. Claims 1-27, 43 and 44 are allowed.

Communication


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT



Theresa Trieu
Primary Examiner
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